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ITEM # 3

Cherokee National Forest
General Report to the Public for 1990

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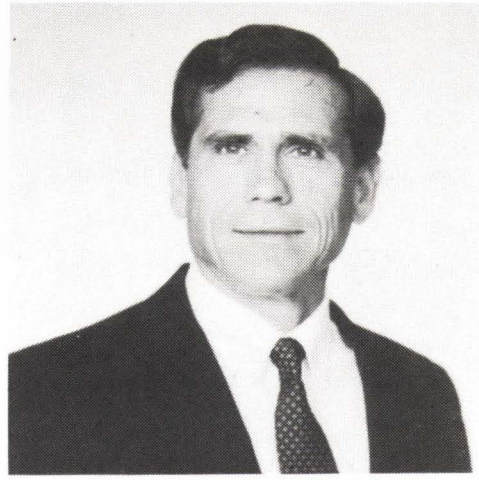

John F. Ramey, Forest Supervisor

TO OUR FRIENDS

Dear Friends,

In 1986, we completed the Land and Resource Management Plan (Plan) to guide the Cherokee National Forest through the decade to follow. We are well into its implementation, and will begin the five year review of the Plan in 1991. Overall, we made progress implementing the Plan during 1990. The Cherokee's Plan was developed with input from the public and established Standards and Guidelines with which we are currently complying.

This report summarizes the various accomplishments made on your Cherokee National Forest within the past fiscal year (FY 1990: 10/1/89 - 9/30/90.) As you will see, we were involved in a variety of activities that demonstrate multiple use management of your National Forest for varied public needs and values. Activities such as installing fish structures, timber harvesting, maintaining wildlife openings, enhancing habitat for threatened and endangered species, and studying Wild & Scenic Rivers are a few examples that demonstrate diverse uses of the Cherokee National Forest.

The Cherokee National Forest belongs to all of us and we invite your participation and involvement. I encourage you to contact my office or any of our District Rangers if you have concerns or are interested in taking part in a particular project. Through our Challenge Cost Share program, individuals, groups and other agencies can become National Forest partners. As a partner, you will share in the responsibilities and rewards of managing our priceless natural resources. Partnerships can involve matching monies or labor and equipment that result in on-the-ground improvements. In FY 1990, for example, we sponsored Challenge Cost Share projects valued at $128,000 in wildlife habitat improvement work and $140,000 in recreation enhancement work. In addition to Challenge Cost Share projects, other volunteers assisted us with a variety of activities and projects. We sincerely appreciate your help and again encourage your participation. Your comments, interest, time, and money have been vital contributions to the management of the Cherokee National Forest.

Looking to the future, the work will be challenging. With your help, we will be seeking new ways to manage the Cherokee. Good land resource management during the coming years will depend strongly on close partnerships with friends like you. We look forward to continued success in implementing the Forest Plan, as well as your involvement in the management of Tennessee's only National Forest. Working together, we can assure that the Cherokee National Forest will provide the benefits you desire.

Sincerely,

John F. Ramey

JOHN F. RAMEY
Forest Supervisor

John F. Ramey, Forest Supervisor

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SUMMARY OF THE FOREST PLAN MONITORING AND EVALUATION REPORT

The Cherokee National Forest annually monitors and evaluates programs and projects to determine whether these activities are meeting the management direction, output objectives, and standards and guidelines in the Forest Land and Resource Management Plan (Plan.) Monitoring also helps us identify any Plan amendments needed to improve resource management.

Overall, implementation of the Plan is on schedule. Progress is being made toward supplying the goods and services (objectives) shown in the Plan's 1990 Monitoring Report.

Field reviews and analysis of documentation confirmed that the majority of the standards and guidelines were being followed, and were effective in protecting and enhancing the environment.

We regard the Plan as a contract between the Forest Service and the public, and are earnestly endeavoring to comply with that contract. A copy of the complete Forest Plan Evaluation and Monitoring Report may be obtained by contacting the Forest Supervisor's Office in Cleveland.

RESOURCE ACCOMPLISHMENTS: STRIKING A BALANCE

The Forest Service manages the many resources of the forest -- fish, wildlife, timber, water, natural beauty, recreation, and minerals -- under the concept of multiple use. Multiple use means viewing the forest from the standpoint of how its many resources fit together, and how management of one resource affects another. With the Plan providing the framework, agency land managers seek to strike a balance among the resources that will best match the public's needs and values.

RECREATION

National Recreation Strategy

During the Forest Land and Resource Management Planning process, people across the nation asked for a greater emphasis on outdoor recreation in National Forests. The Forest Service has responded by initiating a strategy to find ways to better serve the public. The ultimate goals are visitor satisfaction and high quality recreation experiences.

The Forest Service hopes to provide the best possible mix of recreation opportunities on National Forests by working closely with volunteers, state and local governments, other Federal agencies and the private sector.

Bald River Falls

Partnerships and Volunteers Projects

During FY 90, the Cherokee National Forest participated in a number of cost sharing and volunteer partnership projects to enhance recreation opportunities. Projects included construction of horse and hiking trails, trail bridge construction, trail

maintenance, establishing a photo-auto tour, campground rehabilitation, construction of a boat launching area and construction of access for disabled persons. Some of these and other projects are on-going and will continue into 1991. Total value of the projects was approximately $140,000. The Forest Service share was about $65,000 and $76,000 came from the various partners.

Organizations that participated in partnership projects included: Appalachian Trail Conference; Appalachian Trail Riders; Boy Scouts of America; Cherokee Chapter of Trout Unlimited; City of Mountain City, TN; Duggan Construction Co., Cleveland, TN.; Greene County Summer Youth Program; Lost State of Franklin Jr. Chamber of Commerce; Southern Four-Wheel Drive Assoc.; Tennessee Wildlife Resources Agency; Tucker Construction Co., Tellico Plains, TN.; Vietnam Veterans Motorcycle Assoc.; and Unicoi County Chamber of Commerce. In addition to these organizations, numerous individual volunteers donated time and effort in FY 90 to enhance public recreation opportunities in the Cherokee National Forest.

Recreation Use

Recreation use continues to steadily increase. The Cherokee averages about eight million recreation visits per year. Driving for pleasure and camping are the most popular activities, but a multitude of other activities, from hiking, fishing, and hunting to whitewater boating, are available in the Forest. A significant backlog of heavy maintenance and rehabilitation work needed for trails and developed recreation areas continues to be a concern. Volunteers and cost share partnerships have become increasingly important in all areas of the Cherokee's recreation program.

CNF *Recreation Use*

Year	*Visitor Days*[1]
1989	2,655,300
1988	2,561,700
1987	2,432,200

[1]A visitor day equals 12 hours of use.

Trails

Over 650 miles of trails make much of the Forest accessible to recreationists. Included in this total are 558 miles of hiking trails, 56 miles of horse trails, and 46 miles of ATV and motorbike trails. Demands for additional trail miles in each of these categories continue to increase. One new mile of ATV trail was opened in FY 90, and work is underway to open two horse trail complexes. Volunteers have become increasingly important in the effort to rehabilitate and maintain trails. One example of an organized volunteer program is the 50-year relationship between the Appalachian Trail Conference and the Forest Service. Thousands of volunteer hours a year are spent by the Tennessee Eastman Hiking Club and the Carolina Hiking Club maintaining and enhancing the 180 miles of the Appalachian Trail in the Forest.

There are over 650 miles of trails in the CNF

Scenic Byways

As part of the National Recreation Strategy, the Forest Service initiated the establishment of a system of National Forest Scenic Byways. The purpose of Byways is to highlight the diversity of opportunities within easy access on National Forests.

In July 1988, Dale Robertson, Chief of the Forest Service, designated the Ocoee Scenic Byway, making it the first National Forest Scenic Byway in

the nation. The 19-mile stretch of US Highway 64 through the Ocoee Gorge, and seven miles of Forest Development Road #77 up Chilhowee Mountain, showcase a diversity of scenery, historical features, and recreation opportunities.

Other routes in the Cherokee National Forest will be considered for future designation.

Rivers

The Plan indicated that the Conasauga, Doe, French Broad, Hiwassee, Ocoee, Little Tennessee, Tellico, and Watauga Rivers were eligible for study as Wild and Scenic Rivers. A River Study Team is preparing an environmental assessment which will determine the eligibility of these rivers. To be determined eligible, a river must have certain "outstanding remarkable characteristics," and a "free-flowing" nature. When this portion of the process is complete, further studies will be conducted to assess the suitability of each river for inclusion in the National Wild and Scenic Rivers System. The suitability of a river is based on the amount of development on land adjacent to the river, administration of that land, and opportunities foregone by restricting further development.

Scenery - Visual Resources

The Cherokee will soon begin using computer software to evaluate proposed projects that could affect scenery. These topographic images can enhance the design of projects such as timber sales, new roads, utility lines, or viewshed corridor planning.

Cultural Resources

The survey of historic and archaeological resources in the Cherokee NF began in 1976 and is ongoing. Recognizing that cultural resources are non-renewable, the legal mandate is designed to identify and protect the potential National Register quality sites located on federal lands. Protection reached a peak in FY 90 with the arrest and prosecution of nine individuals for looting a Cherokee Indian burial cave located in the Watauga Ranger District. All nine were sentenced in federal court for violating the Archaeological Resources Protection Act of 1979. In coordination with the Eastern Band of the Cherokee Indians, the site will be restored and the human remains re-buried.

Wilderness

More specific direction regarding air quality, fire management, non-native species, and Federally-listed threatened, endangered and sensitive species in wilderness was incorporated into the Plan in early 1990. A new Zone Wilderness Specialist position (for TN, NC, GA, and part of SC) was brought to the Cherokee Forest Supervisor's Office to begin work on wilderness implementation schedules and limits of acceptable change.

Interpretive Services

To enhance the Forest visitor's experience and foster better understanding of the Southern Appalachian environment, the Cherokee NF is affiliated with the Cradle of Forestry Interpretive Association. Through the Association, interpretive and educational materials will be available in sales outlets at each of the Ranger District Officers and the Supervisor's Office. In FY 90, the Nolichucky Ranger's Office in Greenville and the Hiwassee Ranger's Office in Etowah began stocking a selection of interpretive materials.

The Cherokee's Master Interpretive Plan, initiated in FY 90, will provide an on-going inventory of the Forest's interpretive resources and will give direction in developing comprehensive Forest-wide interpretive services.

WILDLIFE & FISHERIES

Wildlife habitat in the Cherokee NF is managed to provide viable populations of native and desired non-native species of vertebrates, invertebrates, and plants. Plant and animal communities are managed toward optimum diversity. The Wildlife and Fisheries programs provide a wide variety of opportunities for consumptive and nonconsump-

tive use of these resources. The Threatened, Endangered and Sensitive Species program is providing for the continued existence and enhancement of several rare species while aggressively taking steps toward the recovery of others.

The Forest Service and the Tennessee Wildlife Resources Agency (TWRA) manage the Cherokee NF as a co-op wildlife management area. All program activities are coordinated with TWRA to insure that wildlife and fisheries goals and objectives are being followed.

Wildlife Management

During FY 90, nine structures and 330 acres of wildlife habitat improvement were assigned and accomplished. An additional 79 structures and 13,348 acres of wildlife habitat improvements were accomplished through cooperative work with the Tennessee Wildlife Resources Agency, Challenge Cost Share partnerships, and through the Knutson-Vandenberg timber sale funds. Some of the projects accomplished included mowing wildlife openings, rehabilitating linear wildlife openings, installing and maintaining gates and signs, and planting shrubs, grasses, and seedlings.

Indirect benefits to certain species such as deer, grouse, and turkey were realized through timber harvesting. Forest Service biologists are involved in the timber compartment prescription process. Their involvement insures that the standards and guidelines are applied and that wildlife needs are considered.

Fisheries Management

During FY 90, a total of 149 structures and 191 acres of fisheries improvement work was accomplished, which exceeded the planned targets. An additional 149 structures and 105 acres of fisheries habitat improvements were accomplished through cooperative work with the Tennessee Wildlife Resources Agency, Challenge Cost Share partnerships, excess timber receipts funds, and the Knutson-Vandenberg timber sale funds. Some of the projects accomplished included nongame fish surveys, brook trout restoration, trout habitat improvements, graduate research in the Hiwassee River trophy trout section, development of a universally accessible fishing site on Indian Boundary Lake, and construction of a bass/brim pond.

Threatened, Endangered, and Sensitive Species Management

During FY 90, 60 structures and 10 acres of Threatened, Endangered, and Sensitive species (TES) habitat improvements were assigned, and all of these targets were accomplished. Ten additional acres of TES habitat improvements were accomplished through the Knutson-Vandenberg timber sale funds. Three habitat surveys for monitoring rare species were conducted. Projects accomplished during FY 90 included: instream habitat improvements for madtoms, installation of red-cockaded woodpecker(RCW) inserts and restrictors, midstory treatment of the active RCW colony site and development of a recruitment stand for expansion of the colony, aerial survey for peregrine falcon nest sites, survey for rare small mammals, and monitoring survey for the Smoky and Yellowfin Madtoms.

Co-op Program

The Forest Service and the Tennessee Wildlife Resources Agency provide funding for the wildlife and fisheries programs in the Cherokee NF. Additional funding is made available through the Challenge Cost Share program. Projects accomplished during FY 90 with these funds include: mowing wildlife openings, rehabilitating linear wildlife openings, installing and maintaining gates and signs, and planting shrubs and seedlings. Fisheries projects included restoration of brook trout, building and maintaining instream structures, and surveying stream habitat.

Challenge Cost Share Program

This program was initiated by Congress to help the Forest Service get more for its wildlife budget. Forest Service funds are used to match monies, materials, or labor provided by interested groups, clubs, universities, agencies, and others to accomplish wildlife goals and objectives in direct

habitat improvement, administrative studies, or research.

In FY 90, the Cherokee NF participated in 14 wildlife and fisheries Challenge Cost Share projects valued at $128,318. None of this work could have been accomplished without the initial contribution from cooperators. Narratives of some of the projects are listed below.

• ***Horse Creek Stream Improvement:*** Stream structures were installed into Horse Creek located in the Nolichucky Ranger District. Donations included labor, equipment rental, catchable size trout, and trout food. These contributions amounted to $5,332 along with the Forest Service share of $5,000. In addition to rebuilding the stream, access points were constructed to view or fish for trout. Special regulations were established that reduced the daily bag limit from seven to two trout, and fishing in the area during certain months is restricted to children, elderly, and disabled individuals only. Catchable size trout were regularly stocked and fed, and educational programs were presented including a "Kids' Fishing Day." By providing above-average fishing on this easily accessed stream and through educational programs, the fishing pressure will hopefully be reduced on the headwater tributaries which support brook trout.

• ***Small Mammal Survey***: Tennessee Technological University is conducting inventories of small mammals. Graduate students are documenting their collection findings. The data will improve understanding of the distribution of rare small mammals. The University is contributing about $22,000 in labor while the Forest Service is matching that amount with $20,000.

• ***Blue Bird Boxes:*** Local Boy Scout Troops provided $800 in labor to install blue bird boxes in the Hiwassee Ranger District. The Forest Service provided $500 in material and supervised the work.

• ***Big Game Habitat Improvement:*** Three acres of wildlife openings were rehabilitated. Contributions of $1,856 in labor and $670 in equipment were donated and matched by $2,200 in labor by the Forest Service. These openings are important forage areas for deer.

• ***Red-Cockaded Woodpecker Survey:*** Sierra Club members surveyed timber stands for the endangered red-cockaded woodpecker. Contributions amounted to $1,600, while the Forest Service share was $1,500.

• ***Small Game Habitat Improvement:*** The TWRA and the Forest Service created openings in timber stands to enhance desirable forage plants for small game animals such as rabbits and grouse. The TWRA and the Forest Service each contributed $1,800 to the projects implemented in the Watauga, Unaka, Nolichucky, and Hiwassee Ranger Districts.

• ***Eagle Hacking Project:*** Late in FY 90, the Forest Service and 13 cooperators joined forces to fund an "eagle hacking" project to re-introduce bald eagles to East Tennessee. The project will begin in mid-1991 on South Lake Holston in the Watauga Ranger District. Young eagles from Alaska and other portions of the country will be brought in and released in the Cherokee NF during the next three years. This is the first eagle hacking project to be conducted on a National Forest in the southeastern United States. Over the next three years the following cooperators have agreed to share the $70,000 cost of the project: Tennessee Technological University; Tennessee Wildlife Resources Agency; National Foundation to Protect America's Eagles; Audubon Society; Bays Mtn. Park Commission; Tennessee Eastman Hiking Club; Mountain City Lumber Co.; McCloud Lumber Co.; Tennessee Conservation League; Johnson City Press; Bristol Herald Courier; Tennessee Valley Authority; Kiwanis Club of Cosmopolitan Kingsport, TN.; and USDA Forest Service. Other cooperators have expressed an interest in this project and will be participating during FY 91.

Following is a list of Cherokee NF wildlife and fisheries Challenge Cost Share Program cooperators: Appalachian Chapter of Trout Unlimited; Cherokee Chapter of Trout Unlimited; Etowah Boy Scouts; Hooked on Fishing International; Johnson City Boy Scouts; National Wild Turkey Federation; Robert Merkel Construction Co., Inc., Greeneville; Sierra Club; Southern Appalachian Sportsman Club; Polk County, Tennessee Ornithological Society; Tennessee Technological University; Tennessee Valley Sportsman; University of Tennessee; Tennessee Wildlife Resources Agency.

Partnership in action

Other Project Work

Fisheries and wildlife funding may be provided through the timber program. Provisions of the Knutson-Vandenberg Act (K-V) require timber purchasers to make deposits to finance sale area improvements. In FY 90, K-V funds were used for aerial seeding and to establish linear wildlife openings, conduct prescribed burns, install and maintain gates, and install fish habitat improvement structures.

Habitat Capability Modeling

Habitat capability models are being developed that use timber stand data to estimate present quality of habitat available for deer, turkey, squirrel, and grouse. The models also predict the amount and quality of habitat that would be available for these species under different timber management schemes. They are useful in displaying the relative differences between alternatives during environmental analysis.

These models should be operational in the Cherokee in FY 91. Future plans include expansion of the models to include nongame species as well as the current game animals. The Forest is also working on a model that predicts the long-term implications of forest management on mast capability (nuts, seeds, and berries.) A workshop, co-sponsored by the Cherokee NF and the University of Tennessee at Knoxville, was held in August, 1989. The most up-to-date information available on the mast needs of wildlife and the silvicultural methodology needed to provide that mast capability was presented.

TIMBER

Both even-aged and uneven-aged management regeneration methods will be applied on suitable forest land. Uneven-aged management methods will be applied on an average of 10% of the regenerated areas per year: 9% in group selection methods and 1% in single tree selection methods. Even-aged management methods will be applied on an average of 90% of the regenerated acres per year, with approximately 70% clearcutting, 15% shelterwood, and 5% seed tree. The combinations of even-aged and uneven-aged management regeneration methods and acres are shown below.

Methods	***Acres***
Clearcutting (70%)	2278
Seed tree cutting (5%) & Shelterwood cutting (15%)	1232
Single tree selection (1%) & Group selection cutting (9%)	325
Reforestation	3254
Intermediate harvest	
Commercial thinning	2069
Salvage/sanitation	100
Timber stand improvement	3000

Timber Sales

The Appalachian Mountains produce a wide range of wood products from quality veneer sawtimber to low-grade hardwood, which is used primarily for firewood. Approximately 65% of the planned sale volume was sawtimber, while small roundwood makes up the remainder.

In FY 90, the Cherokee NF implemented a fee system for personal use firewood gathering. Except in specific, well-documented cases where a significant economic or resource benefit would accrue to the government, all personal use firewood is now sold by permit. About 2% of the FY 90 total harvest was sold as firewood for personal use.

Timber sale accomplishments are based on actual volume sold rather than offered. This challenges

the Cherokee to prepare viable sales that will attract timber purchasers. The Forest continues to keep abreast of market conditions and technical advancements by ongoing communication with the timber industry.

Below-cost timber sales continue to be a concern; however, the Cherokee NF is striving showing a positive net revenue. Timber is sold through competitive bid procedures at fair market value. High costs and low values often prevail in much of the Forest's rough, mountainous terrain. Because of the abused condition at the time the National Forest lands were acquired, many stands of trees in the Cherokee NF are still of low value. As these stands are regenerated and managed, future product value will increase. The Forest is currently cutting costs by sharing both professional and technical services between districts, implementing time-saving cruise techniques, and using more economical means in the timber program. There is a conscious effort to eliminate "no-bid" sales entirely and move away from a below-cost program. In FY 90, the Cherokee sold all offered sales and generated over $1.7 million from timber sales.

Table 1 shows the major activity accomplishments of the timber sale program for FY 1988 to 1990 compared to projections in the Plan. Table 2 reflects the volumes offered, sold, and harvested in the Forest during the period 1987 to 1990.

Table 1 -- Major Timber Program Accomplishments and Projections

Activity	*FY 90*	*FY 89*	*FY 88*	*Proposed Forest Plan*
Green Timber Offered	26.1 MMBF	36.2 MMBF	31.8 MMBF	34.5 MMBF
Regeneration Treatment	2431 Acres	4240 Acres	3838 Acres	3864 Acres
Timber Stand Improvement	2791 Acres	2238 Acres	3000 Acres	2957 Acres

Table 2 -- Timber Volume By Category (MMBF)

Year	*Offered*	*Sold*	*Harvested*	*Under Contract*
88	31.8	23.3[1]	32.9	49.5
89	38.4	36.2	30.9	51.9
90	26.1	26.1	30.5	45.9

[1]Includes 6.4 MMBF originally offered in 1987, but actually sold in 1988.

Reforestation

The Forest received $502,800 for reforestation on 2823 acres in FY 90. There were 2374 acres accomplished by planting and 834 acres accomplished by site preparation for natural regeneration.

Silvicultural Prescriptions

The Cherokee was allocated $248,000 to prepare silviculture examinations and compartment prescriptions for 56,000 acres in FY 90. Normally these prescriptions are prepared three years prior to entering a compartment for work such as timber sales or silvicultural treatments. This gives sufficient lead time for public involvement and to coordinate road building activities or right-of-way acquisition.

Southern Pine Beetle

Forest Service officials are encouraged to see that southern pine beetle populations have declined and activity is at minimal levels in the Cherokee NF. Monitoring during FY 90 will continue as needed in FY 91.

Northern Red Oak Seed Orchard

The Cherokee NF has a unique 19-year-old Northern Red Oak plantation, now recognized as the largest Northern Red Oak seed orchard in the world. This oak has been acclaimed the most economically important lumber species in the U.S. It is native to the U.S., and has been planted extensively in Europe.

This 16.2-acre seed orchard was established and developed from a Northern Red Oak progeny test installed by the Cherokee NF and Tennessee Valley Authority. At age 13 (August 1985), tree height ranged from 1 foot to 26 feet and averaged 11.4 feet. Over 320 pounds of acorns were collected (43,000 acorns) early in FY 90. The Forest Pest Management group is collecting data and developing insect control strategies which should greatly increase production.

Two recent advances in technology -- the use of tree shelters and the development of procedures for a shelterwood method to enhance established seedlings -- hold real promise for increasing the Northern Red Oak component in Appalachian forest stands. These advances will greatly increase the importance of the Northern Red Oak seed orchard.

Chilhowee Mountain Seed Orchard

In May 1988, the decision was made to designate a second generation seed orchard on Chilhowee mountain. This seed orchard will serve as the focal point for tree improvement and production of improved seed for National Forests in Georgia, Kentucky, North Carolina, Virginia, and Tennessee.

The seed orchard will occupy approximately 415 acres. Surveys have been conducted and tentative orchard blocks selected. Target date for installation is 1992-1993.

Progeny Test

Offspring (progeny) of parent trees selected for inclusion in the tree improvement program must be evaluated to determine the genetic value of the parents. This is done by field testing the offspring in progeny test plantations. These plantations range in size from 1 to 3 acres and contain 750 to 1500 trees.

The Cherokee NF currently has 32 progeny test plantations, which include shortleaf, Virginia and white pine species. These plantations are maintained and protected each year. Periodic measurements are made (5th and 10th year) and statistically analyzed.

SOIL, WATER AND AIR

Soil

Soil provides the basic productivity element for the Forest whether it be for timber or wildlife. It also has a great bearing on recreation in determining developed site and trail locations and supporting different animal and vegetation communities. Knowing the type of soil present, its capabilities and hazards, is essential in managing the various resources.

Soil information is obtained through soil resource inventories. The Cherokee is actively involved in the National Cooperative Soil Survey, which is designed to survey the soils in the entire United States. Through surveys by the Soil Conservation Service and by FS soil scientists, 73 percent of the Cherokee has been surveyed. 169,000 acres remain to be surveyed. Forest soil surveys should be completed by 1995.

Through soil and water improvement work, areas can be rehabilitated where past activities are causing reduction of soil productivity and/or

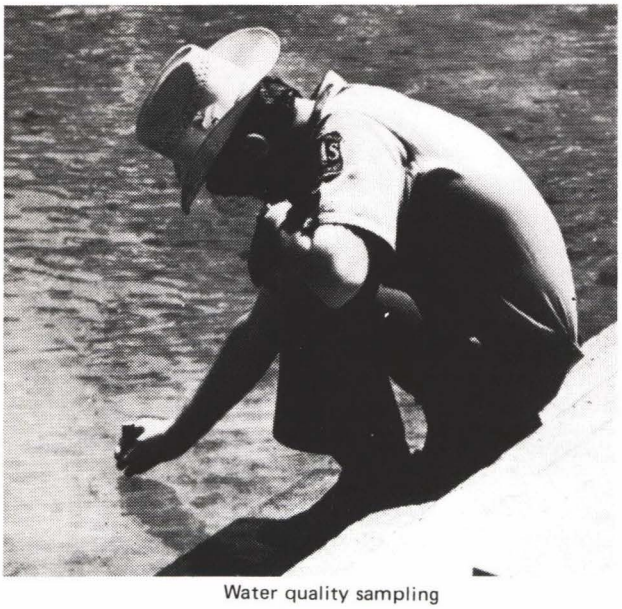
water quality. Emphasis is also placed on rehabilitation of old logging roads that have been acquired through land acquisition. During FY 90, 46 acres were rehabilitated.

Water

Clean water is one of the Forest's most important resources. The major jobs of the Cherokee's hydrologist and soil scientist are to be actively involved in the planning and implementation of activities to assure that water quality and site productivity are protected or enhanced. Generall, water quality is very good throughout the Cherokee NF.

Stream surveys were conducted in ten watersheds to determine the physical condition of the streams in the Forest. Data was collected on stream length, width and depth, and type and amount of woody debris. In FY 91, data will be analyzed for fishery habitat and stream quality.

Water rights in Tennessee are vested in the landowner for uses not detrimental to downstream users. The flows of the Ocoee, South Holston, Watauga, Nolichucky, Hiwassee, and Little Tennessee Rivers are controlled by TVA, in line with that agency's need for power production. The rivers and lakes are low during the Winter and nearly full during the late Spring and Summer, provided rainfall is normal.



Water quality sampling

Tellico River

Riparian Area Management

One of the Cherokee's goals is to manage riparian areas under the principles of multiple use and sustained yield, while emphasizing protection of the totally dependent resources of soil, water, vegetation, fish, and certain wildlife resources. Action within or affecting riparian areas will include protection and, where applicable, improvement of dependent resources.

Riparian areas include geographically delineated areas, with resource values and characteristics comprised of the aquatic and riparian ecosystems, floodplains, and wetlands. They include all areas within a horizontal distance of approximately 100 feet from the edge of perennial streams or other water bodies. This geographical delineation will correspond to at least the recognizable area dominated by riparian vegetation.

Beneficial values of riparian areas include groundwater recharge, moderation of flood peaks, visual and recreational enjoyment, timber production, forage production, wildlife habitat, and cultural resources. Riparian areas protect water quality by reducing sediment and by maintaining stream temperatures, increasing bank stability, and providing food sources. Acreage included for thermal insulation of perennial streams will be considered as unsuitable for timber production. There are approximately 23,400 acres of riparian areas in the Cherokee NF.

Other resource uses and activities will occur to the extent they support or do not adversely affect the maintenance of riparian dependent resources. Preferential consideration is given to riparian area dependent resources over other resources and activities when conflicts occur. Riparian areas will be delineated and evaluated prior to implementing any project activity.

Air

The Cherokee NF has two Class I areas (Joyce Kilmer-Slickrock Wilderness and Cohutta Wilderness) and is in compliance with Section 107 of the Clear Air Act for attainment acres. Linville Gorge, Shining Rock, and Great Smoky Mountains National Park are Class I areas adjacent to the Forest and within 100 kilometers of portions of the Forest. Monitoring stations are established and operating in the Joyce Kilmer-Slickrock and Cohutta Wilderness areas to determine baseline visibility conditions.

In addition to the regional haze, burning also has short term impacts on visibility. In an average year, 1000 acres may be burned for wildlife and timber purposes. No fuel reduction burns are done. The wildlife burns are conducted between December and March. Timber activity burns occur between July and October. The average size prescribed burn is about 25 acres.

The Cherokee now shares an air quality specialist with the National Forests in North Carolina and South Carolina. The specialist has prepared a five-year air management action plan for the Cherokee NF.

A new industry with the potential to affect air quality in Class I areas requires a permit. These permit applications are being reviewed to ensure that air quality related values will not deteriorate. In 1990, four applications were reviewed for Class I areas in the Cherokee NF, and no deterioration of air resources was found.

ENGINEERING

Road Maintenance

Road maintenance was accomplished by using Forest Service crews and by contract. Diligent efforts were made to perform the necessary grading, ditch cleaning, brushing, gravel replacement, etc., commensurate with the maintenance standards established for the various levels of service on Forest Service (FS) roads. Regulatory and directional road signs are being installed to FS standards on the FS roads open to the public.

Roads - Construction/Reconstruction

The regular road construction and reconstruction program for FY 90 included 18 miles of construction and 37 miles of reconstruction for a total of 55 miles. Of these miles, 47 were made in conjunction with the timber sale program and eight with appropriated money. One of these projects involved paving a section of the Hiwassee River Road.

The Forest Highway Program provides benefits to local and state roads in addition to Forest Service roads. Improvement of Mecca Pike in Monroe and McMinn Counties has been established as the number one funding priority for a road adjacent to the Cherokee NF, through the cooperation of Tennessee Department of Transportation, Federal Highway Administration, and FS.

Another area of benefit to local communities and the Forest is the cooperative road agreements with counties. Several projects were funded through this program.

Bridges/Facilities

In the Cherokee National Forest, all bridges on the Forest Services roads meet FS standards. The primary function of facilities engineering is to protect the health and safety of employees and forest users by providing technical assistance in the operation and maintenance of Forest Service buildings and water, sewer and electrical systems. This includes routine inspec-

tion and monitoring of all facilities to assure proper operation and performance.

FIRE MANAGEMENT

Prevention

The Cherokee's fire prevention program delivers prevention messages through both individual contacts, focused on community leaders, and group contacts, primarily through schools. Prevention messages are also delivered to the public through newspaper articles, radio and TV announcements, and display of posters and other materials. Month long fire prevention displays were exhibited at the L&N Depot in Etowah, the Nathanael Greene Museum in Greeneville, and at the Newport Community Center/Cocke County Museum in Newport, TN. The Forest was also active in the Smokey Bear Sports Program where Smokey appears at local high school and college athletic events.

The fire prevention message is also conveyed through law enforcement activities. Arson remains the largest cause of fires in the Cherokee National Forest.

Detection

A combination of towers and aircraft detection units have been utilized for fire detection. Aircraft detection is the preferred system because of greater accuracy in pinpointing the location of fires. In the Fall of 1990 the Cherokee began an **all**-aerial detection program for wildland fire discovery, a change that has reduced operating expenses. Lookout towers will only be used during severe fire danger or for communication needs. Detection efforts are coordinated with the Tennessee Division of Forestry.

Presuppression

This effort includes all activities necessary to be at a readiness level consistent with the fire danger level. This ensures that fire suppression equipment, communication equipment, and human resources are available should a fire occur. Trained personnel and equipment are available for rapid fire suppression assignment nationwide. In addition to the resource already on the Forest, contracts for helicopters and air tankers are maintained. Crews from Jacobs Creek Job Corps Center are trained and available. The Cherokee also relies on local community volunteers who are fully trained and meet physical fitness requirements. The Forest continues with cooperative use of employees from the Tennessee Division of Forestry and National Park Service. During FY 90, the Forest trained and used employees from the Tennessee Valley Authority and Tennessee Wildlife Resources Agency. Interagency crews are formed and dispatched to large fires throughout the nation. In the past few years, crews from Tennessee have assisted with fighting fires in California, Oregon, Idaho, Montana, Wyoming, Florida, and Alaska.

Suppression

1990 was a very mild year for fires. A combination of hand tools, fire plows, bulldozers, and helicopters were used to suppress fires in the Forest. Crews from the Cherokee were able to suppress all fires with a minimum of outside assistance. Listed below are the numbers of fires in 1990 compared to the Cherokee's 5-year average for fires.

	5 Year Average	***1990***
Total fires	98	47
Arson	57	30
Lightning	14	3
Acres burned	2765	434

LANDS

Land Acquisition

Exchange is the preferred method of acquiring land to meet the Plan objectives. The objectives stated in the Plan are as follows:

The 50-year planning projections provide for 28,110 acres to be acquired by purchase and donation, and 20,000 acres to be acquired by

exchange. Approximately 14,000 acres will be disposed of by exchange. This should reduce boundary lines by 200-270 miles. The Forest will be more consolidated, and management of resources will be more efficient. Experience has shown that scattered National Forest ownerships are more difficult and costly to manage. 5eduction in boundary lines will also reduce boundary line disputes and requests for special uses on National Forest land.

The Plan provides for annual acquisition of 350 acres by exchange and 350 acres by purchase. In FY 90, over 700 acres were acquired by purchase and 123 acres were acquired by exchange.

Under the 1911 Weeks Law, approximately 93% of the Cherokee was acquired by purchase and 4% through exchange; the remainder was purchased with Land and Water Conservation funds and donations.

Public Access for NF Land

The Forest acquired two road easements during FY 90. Right-of-way acquisition will assure legal public access to the Forest.

Public Identification of NF Land

The Forest has approximately 1550 miles of exterior boundary lands. About 66% of the Forest boundary lines are currently surveyed and marked on the ground to FS standards. An average of nine miles per year was surveyed and marked during the two-year period of 1984 through 1985. The Plan provides for surveying an average of thirteen miles per year. If the Forest can maintain that annual average for the remainder of the current Plan period, all exterior boundary lines will be established and marked by 1995. The FY 90 budget provided for survey of six miles, which was accomplished.

MINERALS

General

The U.S. government holds the mineral rights to 551,682 acres of the Cherokee NF. These are subject to the Mineral Leasing Act of 1947, the President's Reorganization Plan No. 3 for Hardrock Mineral of 1946, and Bureau of Land Management leases and permits for acquired lands. There are no public domain lands within the Cherokee, so entry and mining claims under the 1872 Mining Laws are **not** applicable. Common variety materials (sand, clay, gravel, and stone) are subject to disposal by Forest Service permit. Because of the nature of minerals demands, the market area for the Cherokee's minerals is throughout the United States. Except for common variety minerals, none of the Cherokee's potential mineral deposits would be limited to local use only.

Mineral Leases

There has been a drastic decline in mineral leases on the Cherokee, primarily due to an economically depressed oil and gas industry. Mineral leases for oil and gas currently total 20,642 acres. There are 1,729 acres under lease for gold and silver. The income for the minerals program for FY 90 was $20,390, primarily from oil and gas leases.

LAW ENFORCEMENT

The prosecution of the largest Archeological Resources Protection Act (ARPA) case in the nation accounted for a large percentage of the law enforcement workload during FY 90. The Lake Hole ARPA incident resulted in the arrest and conviction of nine individuals. Five of these were found guilty of felonies and four were found guilty of misdemeanors.

Other major cases involved "bear-baiting" in the Nolichucky and Tellico Ranger Districts. These cases were precedent-setting in the Eastern District of Tennessee in that the U. S. Magistrate

levied fines up to $2,500 per violation. Eight individuals were charged, and all were found guilty. In addition to their fines, they were barred from hunting on any Federal lands in the United States for periods of up to five years.

Work continued in the war on drugs during FY 90. New techniques in surveillance photography were developed and many days were spent perfecting the various systems now being used. Cooperation was enhanced between the Forest Service and local drug task forces, including the Governor's Task Force on marijuana eradication. A total of 12,955 plants were removed from the Forest in 1990. District officers made over 100 arrests for possession of marijuana.

Below are some of the major activities in which Cherokee NF agents and officers were involved:

Incident Reports:	742
Warning Notices:	798
Violation / Citations:	639

Cases Investigated by Forest Service officers and agents:

- Assisted the Carter County Sheriff's Department in investigating and apprehending two suspects involved in an armed robbery at Carver's Gap in the Roan Mountain Area.
- Executed a search warrant resulting in the recovery of a homemade booby trap/bomb and controlled substances. Arrest warrant has been issued.
- Investigated three illegal firearms cases for prosecution.
- Recovered three stolen vehicles.
- Arrested one person for resisting arrest and assault on an officer.
- Completed five civil fire case reports.
- Arrested one wanted felon while manning a road block.
- Investigated three automobile arson fires.
- Investigated one suicide on National Forest.
- Investigated/raided two illegal whiskey stills on National Forest.
- Investigated 11 arson fires.
- Conducted an investigation and surveillance for ARPA violations in the Jackson Farms archeological area.

HUMAN RESOURCE

Youth Conservation Corps

The Youth Conservation Corps (YCC) is a program for 15- through 18-year olds that focuses on accomplishing needed conservation work on public lands, providing gainful employment, and developing an understanding and appreciation of the nation's natural environment and heritage. A total of six young adults were employed for eight weeks in the Cherokee National Forest's YCC program during the summer of 1990.

Volunteers

Approximately 950 persons volunteered their time and efforts to helping the Cherokee NF during FY 90, a value of about $320,000.

Although many volunteer efforts were in the recreation program, fish and wildlife, timber, land protection, and facilities also benefited. Some examples of Cherokee NF volunteers at work include: the construction of a universally accessible fishing pier at Indian Boundary Lake, Appalachian Trail work, wildlife surveys, development of the Starr Mountain Horse Trail, assistance with boating surveys on Parksville Lake, distribution of environmental education material, planting of 500 seedlings for wildlife, installation of 50 blue bird boxes, and assisting Forest Service personnel with Smokey Bear and Woodsy Owl programs.

Hosted Volunteer Program

The Hosted Volunteer program is utilized to provide work experience and training to enrollees in a wide variety of areas. It promotes agency participation in employment and training programs administered by state and local governments and organizations administering Federal grant programs.

The Nolichucky, Tellico, Hiwassee, and Unaka Ranger Districts participated in the FY 90 program. Several reconstruction and maintenance

projects were undertaken by individuals and groups.

SCSEP

The Senior Community Service Employment Program (SCSEP) provides part-time employment for retired Americans, age 55 or older. The program gives a sense of purpose to those in the program and helps the agency accomplish needed work.

The Cherokee has the second largest SCSEP in the Southern Region of the Forest Service. During FY 90, work performed by 149 SCSEP personnel was appraised at $1,313,866. Enrollees perform a wide variety of tasks in many areas of resource management, and play a vital role in accomplishing established targets and goals. During FY 90, SCSEP enrollees took part in the recreation, fish and wildlife, timber, engineering, administration, and facilities programs in the Cherokee NF.

Winter beauty in the Cherokee NF

TIMBER SALE PROGRAM INFORMATION REPORTING SYSTEM SUMMARY

The Timber Sale Program Information Reporting System (TSPIRS) is an annual report of the costs, revenues, economic outputs, and local community effects of the Cherokee National Forest timber sale program. TSPIRS consists of three parts: the Statement of Revenues and Expenses, the Economic Account, and the Employment and Income Account.

The table below displays the Economic Account that provides an estimate of future benefits and costs associated with the current year's harvest. The revenues, expenses, and Congressional entitlement to states (25 percent fund) for the FY 90 timber management program are shown in the second table.

Economic Effects for FY 90 (In 1990 $)

Present Net Benefits	**Positive Effects**	
	Timber	8,143,000
	Recreation	69,000
	Wildlife and Fish	180,000
	Total	**8,392,00**
	Negative Effects	
	Wildlife and Fish	**0**
	Total	**0**
Total Present Benefits (Positive less negative)		**8,392,000**
Present Value of Costs	Timber	4,271,000
	Roads	1,159,000
	Total	**5,430,000**
Present Net Value		2,962,000

Employment and Income Account

The Employment, Income, and Program Level account estimates the value of the timber sale program in terms of local jobs created and income produced. Employment generated by the 1990 timber program provided 304 local jobs and generated income of $5,567,000.

Statement of Timber Sale Revenues and Expenses

Revenues	Timber Sales	$1,387,210
	Road Credit	276,537
	Associated Charges	63,952
	Interest and Penalties	3,070
	Total Revenues	**$1,730,769**
Controllable Expenses	Sale Administration Expenses	$264,041
	Sale Operations Costs*	1,249,845
	Sale Investment Allowances*	154,733
	Facilities Depreciation	248
	General Admin (overhead) expenses	716,518
	Total Controllable Expenses	$2,385,385
Gain/Loss before Payment to State		654,616
	Payment to State	407,845
Volume Harvested (mm board feet)		30,459

*Operating costs are amortized by volume under contract, and investment allowances are amortized over the timber rotation.

APPENDIX A

1990 MONITORING SUMMARY FOR CHEROKEE NATIONAL FOREST

Comparison of Costs, Effects, Outputs and Services

Outputs & Services	Unit	Predicted	1990 Actual	% Var.	4-Yr Trend	% Var.
Developed Rec Use	mRVD	1640	1005	-39	983	-40
Dispersed Rec Use (including wildlife & fish)	mRVD	2315	1650	-29	1594	-31
Trail Cons/Recons	Miles	38	17	-55	11.3	-70
Wilderness Mgt	Acres	66,294	66,294	0	66,294	0
Wilderness Dispersed Rec Use (including wildlife & fish)	RVD	82.3	59.2	-28	59.6	-28
Wildlife Habitat Improvement	Acres	1200	3184	+165	1961	+63
Programmed Sales Offered	MMBF	34.5	26.1	-24	32.5	-06
Regeneration	Acres	3254	2431	-25	2511	-23
Suitable Land	Acres	372,197	345,045	-08	364,694	-02
Size of Openings	Acres	25	29.0	+16	24.1	-04
Land Purchase & Acquisition	Acres	350	710	+103	377	+8
Land Exchange	Acres	350	124	-64	62	-82
Road Mtce Funding	M$	706	735	+04	601.5	-14
Road Cons/Recons	Miles	62	55	-11	53	-14
Regeneration Methods Prescribed in FY 90						
Clearcut	Acres	2278	1986	-12	1611	-29
Shelterwood	Acres	488	110	-77	364	-25
Seedtree	Acres	162	121	-25	123	-24
Group Selection	Acres	293	106	-64	827	+182
Single Tree	Acres	33	49	+48	43	+30
Total		3254	2372		2967	
Forest Budget	M$	10,259	7438	-27	7298	-29

This is the second year of implementing S&G's for regeneration methods, so the information under the four-year trend contains only two years of data.

APPENDIX B - BUDGET

CHEROKEE NATIONAL FOREST BUDGET COMPARISON

Activities	FY 90 FINAL	FY 89	FY 88	FY 87	FY 86	Plan
Recreation						
Recreation	842,400	865,941	689,245	659,918	571,960	
Trails	218,000	132,500	214,000	33,513	30,000	
Cultural Resources	42,000	35,271	50,000	57,442	51,200	
Wilderness	174,000	85,700	97,000	46,052	12,000	
Rec. Construction	65,000	65,000	-	-	47,000	
Subtotal	1,370,400	1,184,412	1,050,245	816,925	712,160	2,363,000
Wildlife & Fish						
Subtotal	523,706	319,154	241,951	223,739	210,880	449,000
(Includes KV)						
Timber						
Sales Preparation	531,000	406,678	563,206	495,112	466,600	
Sales Admn.	231,000	196,575	180,000	173,240	185,100	
Timber Plans	41,500	10,060	22,335	25,008	9,200	
Silv Exams	248,000	174,298	155,416	139,026	127,600	
REF (Incl. KV)	602,800	715,155	681,967	753,205	794,480	
TSI (Incl. KV)	429,100	311,213	253,444	238,314	199,100	
Tree Impv.	53,000	36,000	34,000	32,256	34,000	
Timber Salvage	-	-	-	-	-	
Subtotal	2,509,900	1,849,979	1,890,368	1,856,161	1,816,080	1,946,000
Soil & Water						
Subtotal	355,584	178,278	147,238	143,654	182,700	336,000
Hazardous Waste	15,000					
Minerals						
Subtotal	30,924	36,683	33,700	32,709	48,000	101,000
Lands						
Special Uses	61,428	52,000	44,000	29,000	16,500	
Land Exchange	23,830	16,990	15,100	17,000	18,300	
L/L Location	98,845	137,530	61,000	79,285	62,000	
Land Acq-L&CWF	133,000	170,000	85,000	91,357	65,000	
Subtotal	317,103	376,520	205,100	216,642	161,800	414,000
Engineering						
Purchaser Elect	38,498					
Purchaser Credit	378,600	342,000	347,000	350,000	476,000	
Road Const/Recon	1,034,500	1,038,200	1,057,200	2,191,078	808,900	
Road Mtce.	714,200	631,900	436,000	301,901	326,700	
Bldg. Const.	-	13,000	2,000	70,083	-	
Bldg. Mtce.	50,446	47,935	50,400	47,806	43,800	
Subtotal	2,216,244	2,073,035	1,892,600	2,961,468	1,655,400	2,105,000
GA Subtotal	1,725,463	1,484,000	1,603,565	1,380,355	1,318,400	1,559,000
(Incls KV & PEPE)						
Human Resource Programs						
Job Corps Capital	120,768	102,852	200,473	179,666	148,310	
Job Corps Operation	2,862,699	2,611,144	2,565,896	2,412,219	2,498,920	
Job Corps Prog.Dir.	98,340	140,956	92,002	101,438	97,020	
Senior Citizens	741,863	728,546	750,130	655,231	675,200	
Subtotal	3,823,670	3,583,490	3,608,501	3,348,554	3,420,450	2,797,810
Co-op Law						
Subtotal	192,000	185,000	145,190	69,000	89,010	259,000
Fire Subtotal	750,331	747,338	724,053	607,428	662,240	1,077,000
TOTAL	13,830,325	12,017,889	11,542,511	11,656,635	10,277,120	13,406,810